



## SEQUENCE LISTING

<110> Hosted, Jr., Thomas J.  
Horan, Ann C.

<120> Isolation of Micromonospora carbonacea var africana pMLP1 integrase and use of integrating function for site-specific integration into Micromonospora halophitica and Micromonospora carbonacea chromosome

<130> IN01164K US

<140> 09/855,340  
<141> 2001-05-15

<150> 60/204,670  
<151> 2000-05-17

<160> 19

<170> PatentIn Ver. 2.1

<210> 1  
<211> 1179  
<212> DNA  
<213> Micromonospora carbonacea

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cgtgcggagc agttgcaggc caacgcgttc atgccgcgcg gcggtcagat taccctcgcc 180  
gatttcgtgg gggagtgggtg gccgagctac gaaaagacgc tgaaaccgcg cggcgtgaac 240  
tcggaggggca accggatcg caaccacctc ctgccccatac tcggccatct cacccttgac 300  
gagctggacg ggcagggtcac ccagcgttgc gtcaacgcggc tggaggccgg cgtcggccgg 360  
tggccggagt ccacgcgggg tcgtcgaaag ccgctggcgg cgaagacgtt cagcaactgc 420  
cacggcctgc tgcacacgtt ctgcggcgcg gcatcgccg cgaaacggat caggctcaac 480  
ccgtgcttcc cgacgtatcg gccccggcgc gagccgaaag agatgaagtt cctgagcgac 540  
ccggagatcg gtcggcttat cacggcgtt ccggccgactt ggcgaccgtt cgtcatgctg 600  
ctgggtggcga ccggctgttag gtgggggttag gcatcgccg tgcgcggccgg ccgggtcgac 660  
ctgctcgccg cgccggcccg gtcgaccgtc gtcgagcggc tccaggagct ggccagcacg 720  
ggagagctcg tcttcccgatc gccaaggacc gcaaggggcc ggcgcacggcgtt cagtttacc 780  
acgaaagtcg ctctactgt tacggcactc atcgccgaa agaaaagtga cgaggtcgtg 840  
ttcacccgcg cggaaaggccg gatggtaagg acgcgcattt tccggccgtt ctgggtcaag 900  
gcgtgcgagg aagccggggt tccgggtta cgcatcgatc atctgcggca cactcacgcg 960  
gcatcgctga ttctcgccgg gctgtcgatct cccggccctt cggtcactcg 1020  
tcgatcgccg tcacggatct gctgtacggg caccgtcgatc aggaggtcga cgaggggatc 1080  
ctcgccgcga tcgaggaggc gatggccggc gtcgggtcgatc aggaccttggaa ggcggaaactc 1140  
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<210> 2  
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<212> DNA  
<213> Micromonospora carbonacea

<400> 2  
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gagcgccgcg gactgaccaa gagcgagttt gccaggcgca tccagaagga cggggccacc 120  
gtcgcccggtt gggaggacgg caagaaccgg cccgacgcgtt cggacccgtt tgccgcgtc 180  
gcccagggtgc tccggctcgatc cctcgacgaa gcccctcgccg cccgcagggtt cgcggccggc 240  
gtcaccggcgcg cagcgaccccc aaccatggac ctggacgcggg aaatcgagctt ggtccgcacc 300

gaccccaaggc tggacgagga catgaaggcg cgcatcatcg ccctaattctt ggagcgccgt 360  
gagcgcgaca aggccgcggc gatcgaggaa accaagcgcc tcatcgacct gttccgcgg 420  
426  
agctga

<210> 3  
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ccccggtagt ggttcaattt ccatcagtca cccg

34

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<212> DNA  
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acacgaaggc cccctccact cggagggggc cttcggcggtt cctgagggtt cgccgtcagg 180  
cggtcggctc ggcgctgggg gactcggccc cgtcggcggtt agtggcctcg gcgtccgggg 240  
241  
a

<210> 5  
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<400> 5  
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ttcccatcag tcacccggca agtggatcta ctccacagca gatcaggccc cctccgaaga 180  
ggggcctga tggtcgtatag gggacaggta gggaaactca acccccggtt cttgtctcg 240  
243  
gtc

<210> 6  
<211> 247  
<212> DNA  
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<400> 6  
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gtcagggtggc ctgttgaccc cctgaccagg gccccggtagtac gggttcaatt cccatcagtc 120  
acccgtacac gaaggcccccc tccactcgga gggggcccttc ggcgttctcg agggttcg 180  
gtcaggcggtt cggctcgccgcttggggact cggccccgtc ggcgggagtg gcctcggcg 240  
247  
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<210> 7  
<211> 255  
<212> DNA  
<213> Micromonospora halophytica

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aggtaagacc caggtcaggg ccggttctca ccggccctga cgcatttca ggggcatggt 180  
ggggcgcta ccgggggtgg ggtgttcac cgcgagccag catctcgatc aggcgatcga 240  
255  
gccggcgctg ccggg

<210> 8  
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<212> DNA  
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<400> 8  
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gcaagtggat ctactccaca gcagatcagg cccctccga agagggggcc ttagtgcgtca 180  
taggggacag gttagggaaac tcaacccccc gtccttgcct cgcgtccgggt catgccgtcc 240  
gcttacccct ccgcgttacctt ggccctctcc cgttctcga tctccggcggc gagctgatcg 300  
315  
cgcaggtgcg cctcc

<210> 9  
<211> 260  
<212> DNA  
<213> Micromonospora halophytica

<400> 9  
taggggaatc cactccggag acgccccggag caatccggag catgacggag caaccagcag 60  
gtcaggtggc ctgttgcacc cctgaccagg gccccgggtac gggttcaatt cccatcagtc 120  
accccgagta agacccaggta cagggccgggt ttcacccggc cctgacgcata ttccaggggc 180  
atggtgtgggg cgctaccggg ggtgggggtgt ctcaccgcga gccagcatct cgatcaggcg 240  
260  
atcgagccgg cgctgccggg

<210> 10  
<211> 209  
<212> DNA  
<213> artificial sequence

<220>  
<223> pMLP1 attP region

<400> 10  
taggggaatc cactccggag acgccccggag caatccggag catgacggag caaccagcag 60  
gtcaggtggc ctgttgcacc cctgaccagg gccccgggtac gggttcaatt cccatcagtc 120  
acccggcaag tggatctact ccacagcaga tcaggcccc tccgaagagg gggcctgatg 180  
209  
cgtcataggg gacaggttagg ggaactcaa

<210> 11  
<211> 19

<212> DNA  
<213> artificial sequence

<220>  
<223> primer PR144  
<400> 11  
tgcttcgacg ccatcargg 19

<210> 12  
<211> 20  
<212> DNA  
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<220>  
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<223> n is inosine (I)

<400> 12  
gtggaanccg ccgaakccgc 20  
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<220>  
<223> primer PDH504  
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agggcaacaa gggaagcgta 20  
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ggcgaaaaatg tggctattat t 21

<210> 15  
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<212> PRT  
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<220>  
<223> amino acid sequence of open reading frame indicated in figures 4b and 4d

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Ser Pro Asp Ala Glu Ala Thr Pro Ala Asp Gly Ala Glu Ser Pro Ser  
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Ala Glu Pro Thr Ala  
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<210> 16  
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<212> PRT  
<213> artificial sequence

<220>  
<223> amino acid sequence of open reading frame indicated in figures 5b and 5d

<400> 16  
Arg Gln Arg Arg Leu Asp Arg Leu Ile Glu Met Leu Ala Arg Gly Glu  
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Thr Pro His Pro Arg  
20

<210> 17  
<211> 21  
<212> PRT  
<213> Micromonospora carbonacea

<400> 17

Ser Pro Asp Ala Glu Ala Thr Pro Ala Asp Gly Ala Glu Ser Pro Ser  
1 5 10 15

Ala Glu Pro Thr Ala  
20

<210> 18  
<211> 21  
<212> PRT  
<213> Micromonospora halophytica

<400> 18

Arg Gln Arg Arg Leu Asp Arg Leu Ile Glu Met Leu Ala Arg Gly Glu  
1 5 10 15

Thr Pro His Pro Arg  
20

<160> 19

<170> PatentIn version 3.3

<210> 1  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> primer PDH502

<400> 19  
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